THE ECONOMICAL, POLITICAL AND SOCIAL DIMENSION OF RESOURCE ABUNDANCE: A THEORETICAL AND EMPIRICAL SURVEY

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Resource abundance as a curse or blessing has been an overarching topic of research for both academics and policy makers. This paper aims to study the economical, political and social dimension of resource abundance. The extensive literature regarding economical dimension of resource abundance indicates the decline of decline of the manufacturing or agriculture sector. Literature exploring political dimensions overwhelmingly reports the deterioration of political institutions in the form of rent seeking and corruption in face of resource abundance. The literature regarding social dimensions is also compatible with the findings stated for economic and political dimensions. However, a good deal of studies also reveal that the relationship between resource abundance and all three dimensions of nation life is not straight forward and depends on several factors among which institutional quality and the level of economic growth are of utmost importance. Due to favourable economical, political and social factors resource abundance can become a blessing rather than a curse.

Keywords: Resource curse, Dutch disease, Institution quality, Human capital.

Introduction

Basic economic theory and historical examples suggest that it should be beneficial for a country to have a rich endowment of natural resources. However, the resource curse suggests otherwise. In 1993, Auty presented the “resource curse” phrase to describe the paradox that natural resource abundance appears to cause poor growth rather than richness. The resource curse can be defined as the adverse effects of a country’s natural resource wealth on its economical, social, or political well-being (Ross, 2015).

A causal look at growth rates across developing countries, with stagnation in resource-rich Africa and rapid growth in resource-poor Asia, seems to be consistent with the resource curse (Ross, 1995). Indeed, several empirical studies have documented and supported the existence of the resource curse in several countries (see Auty, 1990; Gelb, 1988; Sachs and Warner, 1995, 1999 and Gylfason et al., 1999 among others).

Furthermore, countries suffering from the resource curse display higher rates and levels of corruption, resource extraction, economic concentration, government dependency, inflation, poverty, infant mortality, and undernourishment; and exhibit lower rates of transparency and accountability, per capita income, literacy, and life expectancy over time (Sovacool, 2010).

Where indicated, the resource curse seems to be particularly related to point resources, which are minerals and petroleum. This is because they are high-rent resources and can easily be controlled by small
groups and rent-seekers in society, in comparison to agricultural resources that are distributed over a larger area (Oskembayev et al., 2013). Busse and Gröning (2013) and Bulte et al. (2005) found that high levels of point resources negatively affect governance measures, such as government effectiveness, political stability, corruption or the rule of law.

Ross (1999) found that natural resources are not naturally harmful to economic development, rather they cause distortions, which through transmission mechanisms harm economic growth. Most studies find that the resource curse is transmitted through the economy via crowding-out logic, in that the resource abundance crowds out growth enhancing activity (Welsch, 2008). Papyrakis and Gerlagh (2004) investigated the transmission channels and categorized them to corruption, schooling, investment, trade; through which natural resource affects growth negatively. Many studies have tried to analyse these transmission channels but they find a variety of results. According to Du Plessis and Du Plessis (2006) the resource curse is disturbing and alarming for all countries because of many reasons. First, these resources are non-renewable and their rapid extraction may threaten the economic and political structure. Secondly, resource exports are relatively important in these resource rich countries, as they may be the greatest source of economic growth and development. As a result, it is necessary to explore the resource curse dynamics and to know the mechanism by which natural resources hurt growth indirectly.

However, not all studies find evidence of the resource curse. Lederman and Maloney (2008) argued that channels do not convincingly exist in many cases and that the existing cases of a curse are tentative and not robust.

In order to examine the relationship between resource abundance and economic growth, a detailed review of literature is conducted. Many channels exist regarding the causation between resource abundance and economic growth that differ in their description and level of analysis for the underlying variable or problem causing the resource curse. Empirical evidence on the resource curse seems to be highly dependent on the type of data, econometric technique and identification methods used by authors; therefore there is a wide variety of results and conclusions. The goal of this section to provide an overview of the literature addressing the economical, political and social dimensions of the resource curse. Hence, the remainder of literature review is divided into three parts. Each part contains both theoretical and empirical dimensions of the subject under consideration.

The Resource Curse Theory

Studies Supporting the Resource Curse

The work of Sachs and Warner (1995; 1997; 1999; 2001), examining the relationship between resources and growth, has become the cornerstone of research in this area. Their work found evidence of a negative correlation between the abundance of natural resources and economic growth (Sachs and Warner, 1997) and in their following papers they support the view of slow growing resource rich countries.

Focusing on Latin America, Sachs and Warner (1999) found empirical evidence suggesting that natural resource booms have done little to support long run growth, and may in fact have hindered growth on average. Resource booms are often accompanied by declining GDP per capita. The authors also characterize how Latin America and East Asia took different development paths: while Latin American economies kept its historical tradition of exporting commodities or commodity-based manufactured goods, East Asian countries favoured labour-intensive exports, and then capital-intensive and technology-intensive exports. As a result, East Asia had higher growth rates. For example, Auty (2001) concluded that per capita income grows slower in resource rich countries. Moreover, Arezki and van der Ploeg (2010) found that the direct and indirect effects of natural resource dependence on growth are negative. A strong evidence of a resource curse on growth was reported by Collier and Goderis (2007), who find positive effects in the short run but negative effects in the long run.

Rodriguez and Sachs (1999) calibrated a dynamic general equilibrium model to explore why resource-abundant economies tend to have lower growth rates. They found that such economies are likely
to live beyond their means. Since overshooting the steady state’s equilibrium investment and consumption can be optimal in a Ramsey growth model including natural resources, the economy will converge to its steady state from above, displaying negative growth rates on the transition.

Sachs and Warner (2001) summarized of the empirical evidence on the resource curse and provided new evidence on the topic. They showed that except for the direct contribution of the natural resource sector itself, natural resource abundant countries systematically failed to achieve strong export-led growth or other kinds of growth. Of the 20 countries considered by Sachs and Warner (2001) all countries with abundant natural resources in 1970 failed to grow rapidly over the next. Other studies such as Sala-i-Martin (1997) and Sala-i-Martin et al. (2004) recognized that natural resources have significantly negative effect on growth in the empirical studies. Satti et al. (2014) explored the resource curse hypothesis using long run data for the Venezuelan economy. They found statistical cointegration between economic growth and natural resource abundance, and a granger causality test suggests that the latter impedes the former.

By means of panel data methods, Manzano and Rigobon (2001) revisited the reasons behind poor macroeconomic performance of resource-abundant economies, particularly incorporating better data and measures on the manufacturing and non-resource sector of the economy. They stressed that instead of blaming natural resources for bad performance, empirical findings suggest the importance of credit market imperfections (debt overhang) as a reason for poor economic growth in resource-rich countries. Specifically, resource-based economies decided to take advantage of high commodity prices in the 1970’s to use them as implicit collateral for taking debt, which resulted into sovereign debt problems when commodity prices declined in the 1980’s.

Within a related strand of research, Hausmann and Rigobon (2001) modelled the resource curse based on two main building blocks, specialization in non-tradables and financial market frictions, arguing for the need of macroeconomic stabilization policies and interventions to make financial markets more efficient in resource-rich countries. Moreover, Leong and Mohaddes (2011) argued that what drives the curse is the volatility, rather than abundance per se. Though, they also specify that the negative volatility effects of resource rents can be offset by higher institutional quality.

Papyrakis and Gerlagh (2007) focused on the U.S. specifically using state-level data. They found that resource-scarce states tend to have a comparative advantage in development compared to resource-abundant states. The main mechanisms responsible for economic underperformance among resource-abundant countries are also found across resource-rich regions. However they do not suggest causality from resource abundance to lower growth, given that New Mexico and Texas show that adequate regional economic policies can reverse the pattern for individual cases. Although in the long run, the analysis support that U.S. states are converging, it also shows that resource abundance decreases investment, schooling, R&D, openness, and increases corruption. Further specific evidence for the U.S. economy is provided by Douglas and Walker (2013) and James and Aadland (2011).

Studies against the Resource Curse Theory

Although there is a vast body of literature supporting the resource curse, it is also true that there are a few cases where resource-rich countries managed to develop in line with other countries. Torvik (2009) posited that the resource curse field is still in its infancy and identified some methodological steps to strengthen theoretical and empirical conclusions. First, statistical causality is still doubtful, since economists still do not know to what extent natural resource wealth dampens growth. Second, it is relevant to identify the difference between cross-country successes and failures, since for every Venezuela and Nigeria, there is Botswana and Norway. A third room for improvement would be to aim at policy implications, since most studies on the topic are of positive (instead of normative) nature. Lastly, it is relevant to develop applied modelling to lengthen the political economy dimension of resource curse studies, since there seems to be a clear interplay between macroeconomics, politics and natural wealth.

In related work, Smith (2015) used panel regression techniques with fixed effects to evaluate the effect of natural resource discoveries on per capita GDP. He found no evidence to support that there is a
resource curse; namely, resource exploitation has a positive impact on long run per capita GDP growth in developing countries, and no impact in developed ones. Likewise, James (2015) highlighted the relevance of including data on industry composition in growth regressions. Specifically, James (2015) found that natural resource-rich countries grow slowly during given periods, but relatively faster during others, and those results are explained by average sectoral growth heterogeneity. Similar results pointing the nonexistence of the resource curse hypothesis has been provided by Davis (1995), Lederman and Maloney (2008), Brunnshweiler (2008). In another contribution, Sachs (2007) argued that the resource curse is only partially true, because although macroeconomic performance has fallen short of potential in oil rich countries, many of them have been doing well during the last years. Likewise, he proposes an agenda of long-run investment strategies as a key tool for avoiding the Dutch disease. Furthermore, results reached by Gerelmaa and Kotani (2016) are consistent with Sachs and Warner for the period 1970–1990, while they are contradictory for the period 1990–2010. Hence, they concluded that the Dutch disease and the resource curse appear not to hold in recent periods.

Alexeev and Conrad (2009) provided empirical evidence suggesting that large endowments of natural resources do not hinder long-term economic growth. Their analysis focused on GDP per capita instead of growth rates over a given period of time. Natural resource endowments increased GDP per capita and income inequality. Oil-rich countries have on average high GDP per capita and poor institutions relative to advanced economies, causing a negative coefficient to the oil wealth variable (in regression models).Alexeev and Conrad (2011) extended their analysis to study the interaction between the resource curse and economic transition.

James (2015) found little evidence that resources impede growth in non-resource sectors. This evidence is supported by other studies that find that wealth in natural resources have positive effects on growth (Brunnschweiler and Bulte, 2008). Davis (1995) asserted that the curse is the exception rather than the rule as the resource rich countries appear to perform well owing to their resources.

The review of literature above shows that the mere existence of resources does not lead to economic stagnation; rather, these resources produce certain distortions in the economy; which then act as transmission channels; which, in turn, impact economic growth. Thus, natural resources only exert an indirect impact through the transmission channels, which can range from government mismanagement, corruption and low levels of human capital. For instance, Frankel (2012) conducted a survey of the literature and said that there are at least six channels through which the natural resource abundance has a negative impact on economic performance. Those channels are: commodity price volatility, permanent crowding out of manufacturing, autocratic and/or oligarchic institutions, anarchic institutions, and cyclical Dutch Disease. The author suggests, however, that the key policy question for resource-rich countries would be how to make the best out of natural resource wealth.

**Economic Dimension of the Resource Curse**

**Dutch Disease: A Special Case of Resource Curse**

The first clarification of why some resource rich countries are showing poor development status focuses on the economic explanation of the resource curse, termed as ‘Dutch disease’ (Sachs and Warner, 1999, 2001; Torvik, 2002; Ross, 1999; Sandbu, 2006; Sala-i-Martin and Subramanian, 2013). The Dutch disease refers to the contraction of the tradable sectors in Netherlands after the discovery of gas in the North Sea in 1959 (Sandbu, 2006). As per El Anshasy (2011), the Dutch disease is theearliest and most common economic explanation for the resource curse. Another economic explanation relates to the price volatility in resource markets; which would negatively impact growth (Sala-i-Martina and Subramanian, 2013).

The Dutch Disease is a macroeconomic phenomenon that reflects changes in the structure of production and the economy in the wake of a favourable economic shock, including large natural resource discovery, rise in commodities prices, sustained aid or capital flows, or any other external factor causing a windfall gain (Corden, 1984).
The drivers of the Dutch disease and its impact on the economy were decomposed by Corden and Neary (1982) and Corden (1984) into two effects: the resource movement effect and the spending effect. The model assumes that the boom in one of the tradable sector (i.e. natural resource), raises the marginal products of the mobile factors employed within that sector, generating higher wages and profits. This process draws production factors, which were allocated, to other sectors of the economy. This is the resource movement effect. This movement of resources from other sectors to the booming sector implies a reduction in output of these sectors and particularly in the one of the other tradable sector resulting in direct de-industrialisation. The associated reduction in output results in excess demand for services (as the resource movement affects the supply of services leaving demand unchanged), one mechanism of adjustment is through the real exchange (price of non-tradable in terms of traded goods), which has to appreciate to eliminate the excess demand, switching demand away from services and dampening the fall in that sectors output.

The second impact is driven by the increase in aggregate income resulting from the boom. Assuming a positive income elasticity of demand for non-traded goods and that at least part of the extra income generated by the boom is spent inside the country, the boom initially leads to an excess demand for non-traded goods and, hence, to real appreciation of exchange rate. The rise in the relative price of non-traded goods increases the relative profitability of the non-traded goods sector and contracts the (non-booming) traded goods sectors (whose price remains fixed exogenously), this is the spending effect (Van Wijnbergen, 1984).

Considering both spending effect and the resource-movement effect, output of the non-resource traded goods sector is lower than it was initially - the Dutch Disease. Both effects contract this sector. The output of the non-traded goods sector could be higher or lower than initially, the spending effect expands this sector, but the resource-movement effect contracts it. The output of the booming sector is higher since the boom occurs in this sector. If the booming sector does not participate in the domestic factor markets, the resource movement effect is negligible. This is often the assumption for an oil boom abstracting the resource-movement effect, by considering the boom as an increase in transfers received from abroad referring to the “enclave nature” of the oil industry (e.g., McKinnon, 1976; Van Wijnbergen, 1984). The appreciation of the exchange rate coupled with the increase in tradable sector prices mentioned above, renders non-boom export products less competitive in the world market and consequently leads to the corresponding movement of labour away from both non-booming tradable exports sectors and booming tradable sector to the non-tradable sector (if labour is the mobile factor), thus forcing manufacturing and booming sectors to raise their wages as well. Since they cannot compensate by raising their prices as those are determined exogenously, they will see their profits fall and must downsize. The resulting contraction of output and employment in tradable sector is referred to by Corden and Neary (1982) as indirect de-industrialization. Mironov and Petronevich (2015) confirmed the presence of several signs of Dutch disease in Russia after estimating the spending and resource movement effects as determined by the theoretical model.

Davis (1995) suggested that although the Dutch disease and the resource curse are commonly thought as being synonymous, they are two separate matters. The economic explanations of the resource curse show that there are complex and diverse cases among resource rich countries. However, these countries show that the Dutch disease doesn’t seem to explain much of the negative impacts of resources on growth. Butkiewicz and Yanikkaya (2010) rejected the idea of the “Dutch disease” but support the view that the resources curse exists in developing countries with weak institutions.

**Political Dimensions of the Resource Curse**

**Studies in favour of the Political Dimensions**

There is now significant evidence that under certain conditions one type of resource wealth; petroleum; tends to yield to a “political resource curse” (Ross, 2015; Oskenbayev et al., 2013; Williams, 2011).
There has been an upsurge of interest in the political economy explanations of the resource curse; tracing the negative link between resource abundance and economic growth to rent-seeking, corruption, institutions and policies set by political leaders in resource rich countries (Torvik, 2002; Isham et al., 2005; Mehlum et al., 2006a, 2006b; Hodler, 2006, Bhattacharyya and Hodler (2010), Bjorvatn et al. (2012), and El Anshasy and Katsaiti (2013), among many others.

Murshed (2007) believes that between the three transmission channels of the resource curse; economic, social and political; the most important channel is the political economy mechanisms.

Several studies have clarified how resource abundance negatively affects institutional quality in that it happens through rent-seeking behavior, such as; lack of honesty, disregard of law and corruption (Ross 1999; Sala-i-Martin and Subramanian, 2013). Resource rich countries are more prone to corruption, inadequate governance and rent-seeking (Welsch, 2008). Bulte et al. (2005) found that resources might lead to political failures in addition to the economic and social failures. Hodler (2006) showed that natural resources have an indirect effect on income because it causes fighting activities between rivaling groups; which weakens property rights and reduces productive activities.

According to Ross (1999), political explanations for the resource course have followed cognitive, societal and state-centred approaches. Cognitive theories suggest that resource rents (windfalls) generate myopic disorders among policy makers; societal theories suggest that rents empower social groups that support growth-impeding macroeconomic policies; and state-centered theories argue that rents weaken public institutions that are required to promote long-run economic growth.

Empirical studies of the political economy of the resource curse are recent. One of the few notable studies is Robinson et al. (2006), who developed a quantitative model to show that politicians are prone to over-extract resources relative to the efficient extraction path because the future discount rate is too high, and related resource booms improve the efficiency of the extraction paths. Nonetheless, natural resource booms increase the misallocation of resources in the rest of the economy, because they raise the value of being in power and provide government officials with more money to influence electoral outcomes. The magnitude of the macroeconomic impact of resource booms depends critically on institutions since they determine the extent to which political incentives map into policy outcomes.

Within the resource curse context, Brollo et al. (2013) stated that higher revenues induce more corruption, because incumbents have more rooms to grab rents without disappointing voters. Additionally, if the benefit of corruption is more valuable to those with worse outside options, individuals of lower quality are attracted into politics. Precisely because opponents are now of lower quality, an incumbent can afford to grab more rents while at the same time increasing his re-election chances. Other empirical findings confirm the existence of a political resource curse includes Karl (1997), Baland and Francois (2000), Torvik (2002), Kronenberg (2004), among others). Akinwale (2012) revealed that Dutch Disease and weak institution have significant impact on the resource curse in Nigeria. Moreover, Godwin and Chuka (2014) observed that natural resource, through its adverse effects on institutional quality, crowds out human capital and hence affects economic growth negatively in Nigeria. Wiens (2013) highlighted that bad quality of institutions leads to resource curse and this low growth would cause low quality institutions to persist. Elbadawi and Soto (2012) highlighted that the curse exists but it is conditional on bad political governance. Another paper by Nili and Rastad (2007) showed that poor growth in oil countries is related to weak financial institutions, this is caused by the weakness of the private sector and the dominant role of government in total investment.

Leite and Weidmann (1999) proposed a growth model to explain how natural resource abundance creates room for rent-seeking behaviour and determines the level of corruption in a given country. The growth effects of natural resource discoveries and anti-corruption policies depend on the income (i.e. development) level of the country. Model insights are corroborated using cross-country regressions. Mavrotas et al. (2011) presented a quantitative macroeconomic model along with supporting empirical evidence to conclude that both point-resource and diffuse-type natural resource dependence retard democracy development and good governance, which ultimately dampens output growth. Theoretical insights from the model points that there is a growth collapse because of resource dissipation resulting from a wasteful rent-seeking contest. Oskendayev et al. (2013) used a fixed effects panel econometric
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model along with data on fourteen regions to revise the linkages between institutional quality and natural resource concentration in Kazakhstan. They compared the impact on growth from the country’s two main export items, wheat (diffuse resource) and oil (point-source resource). Their results suggested that natural resources do not promote poor macroeconomic performance, but rather their over-abundant production is associated with rent-seeking activities.

Besides the political explanations for the resource curse, there are also political effects; such effects are called the political resource curse in the literature. Particularly, although studies show that economic growth (national income increase) leads to more democratic governments, political scientists believe that when the income increases are linked to resource wealth, such democratizing effect will shrink or disappear (Ross, 2001).

In his study, Ross (2001) used pooled time series data from 113 countries between 1971 and 1997 to test the negative effect of oil rents on democracy. He found that (i) oil abundance has a negative effect on democracy, and the damage is greater in poor states than in rich ones, and an oil exports shock will do more harm in oil-poor states than in oil-rich ones; (ii) the negative effect of oil on democracy is not restricted to Middle East countries, but extends to other countries like Indonesia, Malaysia, Mexico and Nigeria; (iii) non-fuel mineral wealth have a similar effect on democracy, with examples such as Angola, Chile, Peru, Cambodia and Democratic Republic of Congo; (iv) There is tentative empirical support for three causal mechanisms between oil abundance and authoritarianism: a rentier effect (politicians use low tax rates and high expenditure to soften claims for democracy), a repression effect (politicians build up their security forces to ward off democratic claims) and a modernization effect (as people fail to land into non-oil jobs, they are less likely to claim for democracy). Furthermore, Andersen and Aslaksen (2008) found that the resource curse is present in democratic presidential regimes but not in democratic parliamentary ones, and such difference matters more for economic growth than whether the country is democratic or autocratic. Additionally, resource abundance is more prone to reduce economic growth when proportional electoral systems are in place.

On the other side, Smith (2004) studied 107 developing countries from 1960 to 1999 using cross-sectional time series data. Oil wealth was found to be associated with increased regime durability (even when controlling for repression) and with lower likelihoods of civil wars and anti-state demonstrations. The general conclusion from empirical results is that oil wealth increases the durability of regimes, and such regimes seem to be robust enough to overcome booms and busts in oil prices. Aytact et al. (2016) explored why some countries seem to be immune from the negative effect of natural resource abundance on democracy. They compared two types of economies: contract-intensive economies and clientelist economies. In the latter, individuals obtain their incomes in groups that compete over state rents, while in the former; people earn their income normally in the labour market. Empirical results confirmed such theoretical belief, supported by data on 150 countries from 1973 to 2000. Results also confirm that the existence of a clientelist economy can be considered a pre-requisite for the resource curse.

This following section presents more detailed studies focusing on the second transmission route: the link between resource abundance and institutional quality.

**Quality of Institutions and the Resource Curse**

Numerous studies emphasize the importance of domestic institutions for explaining the correlation between natural resource wealth and development performance (Kolstad and Wiig, 2009; Papyrakis and Gerlagh, 2004; Costantini and Monni, 2008; Bulte et al., 2005; Sala-i-Martin and Subramanian, 2013). In related research, Bjørvatn and Selvik (2008) provided a quantitative framework to study the link between resource rents, institutions and economic performance.

Economists commonly agree that good or poor outcomes from any growth policies are mainly contingent on the institutional quality within an economy (North, 1994; Barro, 1991). It should be mentioned that the analyses based on governance or institutional quality state that the differences among growth rates of resource rich countries are related to the way rents created by the resources are distributed.
through institutional arrangements. And Kolstad and Wiig (2009) emphasized that the curse isn’t about resource abundance per se, it is about resource rents. El Anshasy (2011) found that the existence of the curse depends on the quality of its management and it holds only during windfall shocks.

Three broad sets of results have suggested the relevance of institutions to understand the resource curse. The first set of results suggest that there are natural resources whose production or extraction is concentrated in a specific geographic or economic area, and such concentration facilitates the control of rents by interest groups (Bulte et al., 2005; Isham et al., 2005; and Boschini et al., 2007).

The second set of results points out that the abundance of natural resources is strongly associated with corruption, democracy deterioration and armed conflict in countries with low institutional quality (Ades and Di Tella, 1999 and Bhattacharyya and Hodler, 2010). Such argument is also backed by other studies presenting similar results such as Tsui (2011), Collier et al. (2004), Collier and Hoeffler (2005), Ross (2004), and Dietz et al. (2007).

The third strands of results have found that the negative relationship between natural resource abundance and macroeconomic performance is present mainly in countries with already poor institutional quality (see Mehlum et al., 2006; Collier and Hoeffler, 2009; Mehrara et al., 2011 and Boschini et al., 2007). This strand of results is explored and extended by Boschini et al. (2013) and Bakwena (2012). Ji et al. (2014) argued that the quality of institutions is a key factor that impacts the relationship between resource abundance and economic growth.

Sarmidi et al. (2014) found empirical evidence to conclude that good institutional quality is the main element for fostering economic growth in resource rich countries and that institutions can indeed neutralize the effect of the resource curse; this view is also supported by Rodrik et al. (2004), Medeiros Costa and Dos Santos (2013) and Apergis and Payne (2014). As Leite and Weidmann (1999) specified that good institutional arrangement is necessary for the management of efficient and optimal resources. Apergis and Payne (2014) revealed that the unfavorable effect of oil on the economy performance could be reduced by better institutional quality in MENA countries. As good institutions are often associated with high economic freedom, which in turn promotes economic growth, a policy paper by Beland and Tiagi (2009) yielded very similar results. And the case in African countries shows that their institutional quality would not be able to reverse the resource curse (Eregha and Mesagan, 2016).

Sovacool (2010) observed that to benefit from resource abundance, it is important to have improved political institutions and openness of political system. As an example, Norway escaped the resource curse because of its well-established and well-run political and economic institutions that brought oil wealth under political control, such as a strong government involvement in the production of oil, a tax regime that guarantees large revenues, and the oil fund invested abroad (Larsen, 2006 and Listhaug, 2005).

Boschini et al. (2007) claimed that the type of natural resources a country owns is crucially important in shaping the country’s development; such as minerals, diamonds and precious metals that are more problematic than agricultural products. Also, they assert that these potential problems can be controlled by strong quality of institutions. Other studies argues that the resource curse can be avoided if political regimes enhance institutions; by enforcing property rights and showing a predictable legal system (Bulte et al., 2005; Ross, 1999). Cabrales and Hauk (2011) believed that resource rich countries grow at a relatively slower rate than resource poor countries and that the quality of institutions is critical in determining whether natural resources are a blessing or a curse because institutions are linked to the behaviour and decisions of politicians.

Ahmadov et al. (2013) conducted a panel data econometric analysis on resource rich Caspian Basin countries. They found that, at the country level, natural resource revenues have a negative impact on government effectiveness, i.e. countries with higher oil and resource rents as share of GDP, tend to have lower rates of government effectiveness. Very similar results were found previously by De Rosa and Lootty (2012), that resource dependence dampens government effectiveness and the levels of competitions across the domestic economy, and such relationship seems to hold in the long run.

Rodrik et al. (2004) claimed that low quality institutions through which natural resources are channelled to an economic activity could worsen information asymmetries and adversely affect resource allocation efficiency if used by a corrupt politician. Consequently, the decision made by a government
might be politically rational but economically inefficient. While high-quality institutions could facilitate mutual cooperation between market actors that reduce transaction costs and increase efficiency, by helping in efficiently channelling information about market conditions and participants. Then, institutions could act as a tool that reverses the negative relationship between poor outcomes and natural resource endowments. Moreover, Olayugbo and Adediran (2016) tested the link between oil revenue, institutional quality and economic growth using an autoregressive distributed lag (ARDL) approach. They used annual data on Nigeria and found that both low institutional quality and oil revenues promote economic growth in the short run but retards it in the long run, which confirms the resource curse hypothesis.

Brückner (2010) described the resource curse as a function of corruption and weak checks and balances. Busse and Gröning (2013) believed that natural resources can have an impact on politics through many channels. They focus on selected governance indicators; such as: government effectiveness, political stability, corruption and the rule of law. They conclude that natural resources enhance corruption opportunities and have negative impacts on the different governance indicators. Whereas Papyrakis and Gerlagh (2004) argued that the rule is that resources have positive direct effects on growth, but when the country suffers from corruption and absence of rule of law and property rights, natural wealth will turn into a curse.

Bulte et al. (2005) observed that the direct link between resources and several indicators of human welfare is weak. However they find an indirect link that operates through institutional quality. This implies that small groups in society can control resources and stop any economic development against their advantage, and that weak institutions can cause deterioration in development indicators. They also show that point resources have a negative effect on governance measures: both the rule of law and government effectiveness. Most importantly, they assert that the resource curse is a phenomenon that arises at a wider scale not just economic growth; hence countries that depend on point resources tend to perform worse across many conditions.

Unlike other economic papers, Sala-i-Martin and Subramanian (2013) stated that natural resources such as oil and minerals may or may not be a curse themselves. Instead, their work showed that natural resource abundance has a seriously negative impact on the quality of domestic institutions and through this channel on long-run growth. Although it is non-linear, that relation holds for cross sections of countries. In a specific case of Nigeria, its disastrous development path has been driven by waste and corruption (poor institutional quality) rather than Dutch disease issues. Similar results were reached by Ologunla et al. (2014) when they looked at the institutions and resources in Nigeria.

The resource curse has existed in many countries as concluded by Sandbu (2006). He uses the political economy explanations of the negative impacts of resources on growth as the interaction between the quality of institutions and natural resource rents. Rents encourage spending on economically inefficient, but politically important projects. He states that these countries usually suffer from underdevelopment, corruption and conflict, and that there is a negative impact of resource abundance on institutional quality.

Bjorvatn and Selvik (2008) presented a case study focuses on the relation between resource rents, institutions and economic performance in Iran. They study how investments and economic effectiveness are affected by the strength of interest groups and the oil revenues. They find that economic performance in Iran is negatively affected by the factionalized political system of its institutional environment, which allowed Iran to be hunted by the main actors that control the management of its resources. In Zambia, Du Plessis and Du Plessis (2006) evaluated its lack of growth and relate it to the resource curse and they study specifically whether the new institutional theory can justify Zambia’s economic decline. They find that the decline was not caused by its dependence on copper; rather, this dependence worsened the impact of poor quality institutions on its growth, especially failing to protect property and contract rights. Bergh et al. (2014) related the negative link between social globalization, economic flows and improving institutions in poor countries to resource abundance, whereas this link is positive in rich countries.

Bulte et al. (2003) explored the effects of resource wealth not only on economic growth but also on economic development in a broader sense. Certain types of resources – so-called point resources that can be easily controlled by small groups in society – are typically associated with less democratic regimes and
bad institutions that deliver an inadequate quality of governance. Also, countries with low levels of institutional/governance quality tend to have lower score on development indicators, but there is no evidence that the resource curse itself has an impact on development. These findings are aligned with Pike (2010), who found that oil dependence has negative consequences across a range of dimensions of government and institutional quality (including the level of democracy and corruption), and with Anthonsen et al. (2009, 2013), who found that oil and gas dependence has a negative effect on three dimensions of government quality; including measures such as corruption, bureaucracy and legal partiality.

Norman (2009) validated empirically and theoretically the belief that countries with higher stock of natural resources have subsequent lower levels of rule of law. Similar results were also found by Groning and Busse (2013). These point resources may have greater adverse economic effects relative to other resources on the quality of institutions and on economic growth (Karabegović, 2009). Moreover, Ross (1999) identified how petroleum is the only type of resource that has been consistently correlated with worse institutions and that petroleum is the key variable in most of the resource curse studies.

From another angle, Atkinson and Hamilton (2003) showed that when weak institutions allow resource profits to be spent in government consumption rather than investment then natural resource abundance would harm the development. And the growth in these countries is restricted because of state intervention and corruption (Di John, 2011). Also, evidence presented by Brollo et al. (2013) showed that government revenues from natural resources reduce the politicians’ quality of education and boost corruption.

In addition, Williams (2011) showed another angle of the negative effects of oil on growth. Revenues from resource exports are negatively related to transparency, and this lack of transparency impedes economic growth. The political economy literature largely argues that the high levels of transparency and accountability; which is an effective mechanism to monitor the government actions; turns the resources into growth enhancing assets. Evidence presented by Brollo et al. (2013) showed that government revenues from natural resources reduce the politicians’ quality of education and boost corruption.

All in all, the link between economic growth and institutions has well been documented by Acemoglu et al. (2003), Acemoglu and Robinson (2012), Rodrik et al. (2004), Dias and Edinaldo (2012), Hall and Ahmad (2014), among others, so if there is a negative effect on institutions caused by resource revenues, it will certainly be harmful for macroeconomic performance too.

Studies against the Political Dimensions

Brunnschweiler and Bulte (2008) and Brunnschweiler (2008) challenged the view that resource abundance causes deterioration in the effectiveness of national institutions and governance. Both studies found no evidence of negative indirect effects of resources through the institutional transmission channel; he concludes that resource dependence is unrelated to growth and institutional quality. However, they found that resource abundance has a positive impact on institutional quality and growth, hence contradict the resource curse phenomena.

Although many resource rich countries have weak institutions and relatively slow development, Bjorvatn et al. (2012) argued that a strong government, even with weak institutions, should be enough to use resources as one of these assets that enhances growth. Another view looks at the severity of the resource curse; Yang (2010) argues that institutional quality has no effect on the severity of the resource curse. However, he relates the major role to country’s policies in minimizing the negative impacts of resources abundance.

Overall there is no consensus over the link between institutions and resource curse and many suggest the link is different for each country (Brunnschweiler and Bulte, 2008 and Bulte et al., 2005). As it is recognized from the previous paragraph, although some authors disagree with the institutional quality as a major transmission channel, the majority says that institutions matter.
As a result, the search for the Resource curse causes, validity, and how to shield the economy from it remains of interest, especially for policy makers and producers of resources in developing countries (Torres et al., 2012).

**Social Dimensions of the Resource Curse**

Despite the curse concerning, primarily, the detrimental effect of resource abundance on growth rates, there is also evidence that indicates how countries rich in resources tend to perform comparatively worse than resource poor countries in the main development and social indicators, such as life expectancy, education, child mortality or in the human development index (Ross, 2001; Bulte et al., 2005; Gylfason et al., 1999 and Gylfason, 2001).

This transmission channel of the resource curse is shown by Welsch (2008), who found that knowledge accumulation and capital formation is negatively related to natural resource wealth. He shows that natural resources reduce the public and private incentives to save and invest. Moreover, he states that public spending on education is low in resource rich countries, a result confirmed by Papyrakis and Gerlagh (2004). Behbudi et al. (2010) examined the correlation between resource abundance, human capital and economic growth and find that resource richness causes countries to assign inadequate attention and expenditure to education. Hence, a negative relationship between natural resources and human capital. Their findings support the view that human capital serves as a transmission channel of the resource curse. However, they also find that high levels of human capital were found to offset the negative effects of natural resource abundance.

Output growth and the share of natural resources have been found to be negatively correlated with at least four main channels of transmission that have been identified: the Dutch disease, rent-seeking, overconfidence and the neglect of education (Gyfalon, 2001). Papyrakis and Gerlagh (2004) posited corruption, investment, terms of trade, trade openness, and schooling as transmission channels. In both cases, human capital formation is part of the resource curse transmission mechanism. Also, Kurtz and Brooks (2011) argued that human capital endowments are a crucial mechanism to distinguish whether resource wealth can be a curse or a blessing.

Education is a necessary element for rapid economic growth and development across the globe (Barro, 1997 and Aghion et al., 1999), because it improves the quality of living conditions by increasing efficiency of workers, fostering democracy, creating good governance, enhancing equality, etc. However, according to Gyfalon (2001), countries that consider their natural resources their most relevant asset, are prone to neglect human capital development by allocating low attention and financial resources to education. In other words, natural resource abundance dampens the need for education due to the false sense of security. Gyfalon et al. (1999) found that school enrolment at all levels is inversely related to natural resource abundance: e.g. OPEC countries sent 57% of youth to secondary school compared with 64% for the world as a whole. Also, resource rich countries are likely to spend 1% less on education (as share of GDP) than the global average.

One risk that comes along with natural resource abundance is that too many workers are locked in low-skill, natural-resource-based industries, such as agriculture or mining, so they fail to advance their own education or earnings. Further, another risk is that the authorities and people from resource-rich countries become confident enough to underrate the need for sound macroeconomic management and good education (Gyfalon, 2001). Bravo-Ortega and De Gregorio (2002) found that natural resources have indeed a negative impact on economic growth in countries with low levels of human capital, despite of the existence of a positive income effect. The abundance of human capital partially mitigates the negative effect of resource abundance on growth. Extremely low levels of human capital may give rise to stagnation problems, because the economy tends to specialize in natural resource-related activities. Cockx and Francken (2014) extended the resource curse concept by investigating the link between natural resource wealth and social spending. They conclude that natural resource wealth is negatively linked to public health spending and human development. This is also confirmed by El Anshasy and Katsaiti
(2013), they stated “public health provision declines with greater hydrocarbon resource-intensity”. Butkiewicz and Yanikkaya (2010) believed that resource rich countries may invest less in the development of human capital, which impedes the development of the non-resource sectors, resulting in lower overall growth rate.

To analyse the specific case of Latin America, Blanco and Grier (2012) used data on 17 countries between 1975 and 2004. Their evidence suggests that aggregate resource dependence does not have a statistically significance on the accumulation of human and physical capital. On the other hand, when natural resource dependence (as a variable of the model) is disaggregated into sub-categories, petroleum export dependence has a positive effect on physical capital and a negative on human capital, and such effects hold in the long run. When considering agricultural exports as another type of resource dependence, they generate a long-run negative effect on both physical and human capital. Carmignani (2013) concluded that resource abundance affect human development by reducing the quality of institutions and increasing the inequality of income.

Manuelli and Seshadri (2014) provided insights from a calibrated macroeconomic model suggesting that human capital is a critical variable in the determination path of the wealth of nations and that the quality of human capital is not uniform across different development levels. Further, the model predicts that a large portion of cross-country output divergence are because of differences in the quality of human capital. Shao and Yang (2014) developed a similar quantitative strategy, an endogenous growth model to explore the linkages between human capital accumulation and economic growth in natural resource-abundant economies.

Additionally, Cockx and Francken (2015) studied a large panel dataset of several countries from 1995 to 2009 and found evidence that public education is negatively affected by natural resource dependence. The effect works through indirect channels such as deterioration of government accountability and crowding-out of skilled-labour intensive sectors. In summary, public education expenditure as share of GDP seems to be lower in countries; which are highly dependent on resource-intensive activities.

**Studies against the Social Dimensions**

Only a handful of studies present evidence counter to the negative relation between resources and human capital. For example, Stijns (2006) conducted a panel vector autoregressive (PVAR) analysis to study the links between natural resource abundance and human capital accumulation, and concluded that there is no negative relationship between them. Resource rents per capita are significantly correlated with improved indicators of human capital accumulation. He argues that previous empirical results pointing out a curse between both variables, might suffer of specification errors due to the selection of non-accurate indicators of natural resource abundance. Another study presents the same results by Davis (1995), who finds that 22 resource rich countries compare favourably to resource poor countries in terms of GDP per capita and different human development indicators.

Moreover, Faria et al. (2016) found no direct impact between human capital and development; yet, this impact was clear through economic institutions. Also, Torvik (2002) developed a new mechanism to explain why resources may decrease welfare and income. He combines rent-seeking and increasing returns to scale to capture the idea that more resources might lower social welfare. In his empirical analysis, Daniele (2011) showed how resource abundance is linked to lower human development but relates this negative link to the lack of effective management of resources and not to the resources themselves. He emphasized that the impacts of natural resources on economic and human development can be very diverse, and strictly related to certain institutional and national political characteristics in cases like the Democratic Republic of Congo, Equatorial Guinea, and Botswana.

Although human capital is not a guarantee for achieving long run economic growth, from a theoretical standpoint it is expected that education and skills development do have an impact on growth. In the endogenous growth literature (see Lucas, 1998; Aghion and Howitt, 1988 and Romer, 1990)
human capital is just another production factor and therefore investment in human capital is similar to investment in other input for production (e.g. physical capital). Becker (1964) and Schultz (1961) also suggest that education augments skills, which in turn, augment labour productivity. Suslova and Volchkova (2012) recommend to set educational policies directed at skilled labor force, is crucial to guarantee economic development sustainability in resource rich nations.

Conclusion

The resource curse is a complex problem and the hypothesis has been analysed in many cross-country studies, both from empirical and theoretical approaches. As noted, resource abundance often generates distortions or certain tendencies in an economy, and these distortions then undermine economic performance. Those distortions serve as “transmission mechanisms,” which create and explain the negative correlation between natural resource abundance and economic growth. These countries can be victims of the resource curse if it has one or more transmission channels. Recent studies support the significance of the indirect influence of these transmission channels. These channels negatively affect government policies and decisions in several ways, which would impede economic growth. Accordingly, the harmful effects of these transmission channels are seen in the economic, political and social performance.

It is readily observed from the review of literature that resource abundance has far reaching effect for economic political and social performance. Due to the close inter linkages between all three sectors; the harmful or beneficial effects of resource abundance do not remain confined to a particular side. If resource abundance turns out be a curse for economic development, it also becomes detrimental for social side of the nation. The role played by political institution is of utmost importance for accelerating or mitigating the effects of resource abundance. It is therefore suggested that all three dimension of resource abundance should be studied simultaneously which has been not explored yet. A simultaneous and all-encompassing study will reveal the catalysts and propagation mechanisms of resource abundance as curse or blessing.

References


